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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,710	07/28/2003	Yoshiyuki Miyajima	2003_1031A	7097
513	7590	01/06/2004	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			LAM, CATHY FONG FONG	
2033 K STREET N. W.				
SUITE 800			ART UNIT	
WASHINGTON, DC 20006-1021			PAPER NUMBER	
			1775	

DATE MAILED: 01/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/627,710	Applicant(s) MIYAJIMA, YOSHIYUKI	
	Examiner Cathy Lam	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

Drawings and Prior art

With the response to this office action, the examiner is requiring the applicant to submit all the publications or documents which originated the drawings which are submitted as prior arts.

Figures 3 and 4 do not show any resist layer, as it is unclear whether or not these figures are prior art figures?

Applicant is further requested to submit any prior art they are aware of which they believe would be helpful to the Examiner in considering whether the present application is patentable MPEP 707.05 (2)(3)(4).

Claim Rejections - 35 USC § 112

1. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 3, the phrase "the contours of the first and second lands" lacks antecedent basis.

Claim 2 is structurally indefinite, since from Fig. 1a, the second lands extend from the first lands. It is unclear how the resist formed between the first and second lands?

Claim 3 is structurally indefinite, as it is unclear how the solder lump joining the terminal and the second lands shaped into a ribbed conical form connected together? Furthermore, the phrase "the solder lumps" lacks antecedent basis.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Darveaux et al (US 6201305).

Darveaux discloses a mounting pad on a substrate. The mounting pad (28) is a metal layer formed on a surface of an insulating layer. The insulating layer includes a via hole (18) over which the mounting pad (28) is formed (Fig. 1A).

The mounting pad has at least two spokes radiating outward for the making of circuit traces (col 4 L 40-46, Figs 3A & 4A). A solder mask having an opening is formed over the insulating substrate such that the mounting pad and portion of each of the spokes and the insulating layer show through the opening (col 4 L 50-52 & Figs. 3A & 4A).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darveaux et al (US 6201305) in view of O'Keefe (US 3610811).

Darveaux teaches the present invention except for a narrow resist layer around the mounting pad and the spokes.

O'Keefe discloses a circuit board comprised of a substrate, a conductive via hole (30), a mounting pad (26), conductor patterns (22,24) and a solder resist pattern.

The substrate has a conductive via hole formed in the thickness direction of the substrate. A mounting pad (26) is formed on the rim of the conductive via holes (30) and electrically connected to each other (Fig. 8).

Conductor patterns (or leads) (22,24) are formed on the substrate surface and extend from the mounting pad (26) (col 3 L 53-56).

A solder resist pattern (14) is formed over the surfaces of the substrate and covers portions of the leads and mounting pad (26). The resist are at least tangential to the apertures around each conductive via hole (Figs. 6 & 7, col 4 L 50-55).

The solder resist of the prior art may not be the same configuration as the present invention, but one skill in the art would choose a pattern of cut out for his own structure because it is a matter of design choice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (703) 308-2418. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9604.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Cathy Lam
Primary Examiner
Art Unit 1775

cfi
December 18, 2003